

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB 2004/002334

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7: F16J 15/08, F16L 27/04, F16L 37/28, F16K 1/32, F16K 1/46  
According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: F16J, F16L, F16K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI DATA, EPO-INTERNAL, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2013810 A (JOHN DU-ROSE WHARTON), 15 August 1979 (15.08.1979), figures 1-3, abstract	1-9,20
Y	--	10,16-19
X	EP 0040268 A1 (BBC BROWN, BOVERI & CIE (AKTIENGESELLSCHAFT)), 25 November 1981 (25.11.1981), figures 1,2, abstract	1-9,20
Y	--	10,16-19

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

\* Special categories of cited documents

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

29 December 2004

Date of mailing of the international search report

30-12-2004

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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4087323 A (SULLIVAN ET AL), 2 May 1978 (02.05.1978), figure 2, abstract	1-3,6-9,20
Y	--	10,16-19
X	WO 9307414 A1 (SEGUI, GARCIA, RAFEL), 15 April 1993 (15.04.1993), figure 1, abstract	1-3,6-9,20
Y	--	10,16-19
Y	US 5379798 A (SYLJESET ET AL), 10 January 1995 (10.01.1995), column 4, line 24 - line 68, figures 2,3, abstract	10,16
Y	US 5950985 A (PETTERSON), 14 Sept 1999 (14.09.1999), column 5, line 9 - line 16, figures 4,5,7,8, abstract	10,16
Y	US 3420497 A (W E WILCOX), 7 January 1969 (07.01.1969), figures 1-4, abstract	10,16-19
Y	US 5320133 A (NIMBERGER), 14 June 1994 (14.06.1994), figures 1-4, abstract	10,16
A	US 4132386 A (LEE), 2 January 1979 (02.01.1979), figures 2,3, abstract	21
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**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

**See extra sheet**

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

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Box III

The following separate inventions were identified:

I: Claims 1-6 directed to a sealing element comprising a hollow body of metallic material.

II: Claims 7-20 directed to a coupling device comprising a male coupling part in the form of a sealing element according to any of claims 1-6.

III: Claims 21-25 directed to a valve device comprising a sealing element according to any of claims 1-6.

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

27/11/2004

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GB	2013810	A	15/08/1979	NONE		
EP	0040268	A1	25/11/1981	DE	3070570 D	00/00/0000
US	4087323	A	02/05/1978	NONE		
WO	9307414	A1	15/04/1993	EP	0563334 A	06/10/1993
				ES	1018654 U,Y	16/01/1992
US	5379798	A	10/01/1995	BR	9402001 A	13/12/1994
				GB	2278657 A,B	07/12/1994
				GB	9409328 D	00/00/0000
				NO	177836 B,C	21/08/1995
				NO	931797 A	21/11/1994
US	5950985	A	14/09/1999	AU	2688095 A	04/01/1996
				EP	0792430 A	03/09/1997
				SE	9401988 A	10/12/1995
				WO	9533950 A	14/12/1995
				SE	9500659 A	23/08/1996
US	3420497	A	07/01/1969	NONE		
US	5320133	A	14/06/1994	AU	661072 B	13/07/1995
				AU	2978392 A	24/06/1993
				CA	2090630 A	02/09/1994
				EP	0547435 A,B	23/06/1993
				US	5228474 A	20/07/1993
				US	5257653 A	02/11/1993
				CA	2085440 A,C	18/06/1993
				DE	69212290 D,T	21/11/1996
				ES	2090467 T	16/10/1996
				MX	9207250 A	01/07/1993
US	4132386	A	02/01/1979	NONE		